

Remarks

The Official Action rejected claims 1-13 and 15-22. Applicant has amended claims 1 and 17. Claims 1-24, 26 and 27 are now pending in the present application. Applicant respectfully requests reconsideration and allowance of the pending claims in the light of the points that follow.

Allowable Subject Matter

Applicant gratefully acknowledges that claims 14, 23-24, and 26-27 are allowed.

Claim Objections

The Official Action objected claims 1 and 17. Applicant has amended the word "a" in claims 1 and 17 to "said". Applicant respectfully point out that the objections on claims 1 and 17 is overcome according to the above-mentioned amendments.

Claim Rejections – Under 35 USC § 102

The Official Action rejected claims 13, and 15-16 under 35 U.S.C. 102(e) as being anticipated by Joseph et al. (U.S. 6,628,615). Applicant respectfully requests the present rejection be withdrawn.

Claims 13, 15 and 16

Applicant respectfully points out that claims 13, 15 and 16 contain limitations not taught by the cited reference. Each of claims 13, 15 and 16 requires flits are interleaved based on **whether flits are available for a transfer and/or whether a receiving end of each channel is able/unable to receive more flits.**

In contrast, Applicant respectfully asserts that Joseph et al. merely disclose a two level virtual channel network interface (see col. 4, lines 20-36). In particular, Joseph et al. disclose that the transport agent 200 forwards information about a message or each packet of the message separately to the specified second level channel (see col. 5, lines 10-15). Although Joseph et al. appear to teach frame buffers 307 and 309 that may include a number of slots and token counters 306 and 308 that may implement a token passing mechanism for indicating availability of free slots in each corresponding frame buffer (see col. 5, lines 37-41 and col. 6, lines 27-31), Applicant respectfully submits that the availability of free slots in each frame buffer in Joseph et al. is different from whether flits are available for a transfer or whether a receiving end is able/unable to receive more flits.

More specifically, since each frame buffer slot includes information about packets, the availability of free slots may merely indicate whether there is free slot for said packet information, instead of whether flits are available for a transfer or whether a receiving end is able/unable to receive more flits. Moreover, Joseph et al. appear to disclose flits coming out of the second level channels for input into a flit handler device 230 are not actually packets that pass from the transport agent to the

second level channels, rather information describing the packets (col. 6, lines 37-41). Accordingly, the availability of free frame buffer slots of Joseph et al. has nothing to do with interleaving of packets or other data. Further, Joseph et al. only appear to teach the same frame buffer structure, i.e., slots for storing packet information, on the receiving end, rather than whether a receiving end is able/unable to receive more flits. Therefore, Joseph et al. do not teach or suggest flits are interleaved based on whether flits are available for a transfer and/or whether a receiving end of each channel is able/unable to receive more flits, not anticipating the inventions of Applicant's claims 13, 15 and 16.

The official action seems to rely on Joseph et al., col. 6, lines 23-58 for the teaching of interleaving of flits based on whether flits are available for a transfer and whether a receiving end of each channel is able/unable to receive more flits. However, the identified section seems to merely disclose Joseph et al. may indicate availability of free slots for packet information; and the flit handler 203 may pull packet payload data from memory 240 and may forward the repackaged flits, rather than determining whether flits are available for a transfer or whether the receiving end is able/unable to receive more flits.

Applicant respectfully requests that the present rejection of claims 13, 15 and 16 be withdrawn.

If the Examiner elects to maintain the present rejection, Applicant respectfully requests that the Examiner identify where Joseph et al. teach interleaving of data

based on availability of valid data to be transferred and/or further based on whether the second end(s) can accept more data or flits.

Claim Rejections – Under 35 USC § 103

The Office Action rejects claims 1-12 and 17-22 under 35 U.S.C. § 103(a) as being unpatentable over Joseph et al. (U.S.6,628,615) in view of Walsh et al. (U.S.5,329,521). Applicant has amended claims 1 and 17. Applicant respectfully traverses this rejection in view of the remarks that follow.

Claims 1-12 and 17-22

Applicant respectfully points out that, to establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490, F.2d 981, 180 USPQ 580 (CCPA 1974, M.P.E.P. §2143.03). Without conceding the appropriateness of the combination, Applicant respectfully submits that the combination of Joseph et al. and Walsh et al. does not meet the requirements of an obviousness rejection in that neither teaches nor suggests controlling interleaving or interleaving of data/flits from channels through said physical connection **based on availability of valid data in said channels and/or backpressure from a receiver of each channel.**

Claims 1-12 and 17-22 require controlling interleaving or interleaving of data/flits from channels through said physical connection **based on availability of valid data in said channels and/or backpressure from a receiver of each channel.**

As mentioned above, Applicant respectfully asserts that Joseph et al. merely disclose frame buffers 307 and 309 that may include a number of slots and token counters 306 and 308 that may implement a token passing mechanism for indicating availability of free slots in each corresponding frame buffer (see col. 5, lines 37-41 and col. 6, lines 27-31). The availability of free slots in each frame buffer in Joseph et al. is different from the availability of valid data in two channels and/or backpressure from a receiver of each channel, since each frame buffer slot includes information about packets and the availability of free slots may merely indicate whether there is free slot for said packet information.

Accordingly, Joseph et al. appears not to teach the above-identified limitations as defined in Applicant's claims 1-12 and 17-22, thus, the token counters for indicating availability of free slots in each frame buffer are not required in Applicant's claims 1-12 and 17-22. Therefore, it appears that Joseph et al. are devoid of suggesting controlling interleaving or interleaving of data/flits from channels through said physical connection based on availability of valid data in said channels and/or backpressure from a receiver of each channel. Moreover, Walsh et al. are devoid of teaching the limitations in Applicant's claims 1-12 and 17-22.

Thus, the combination of Joseph et al. and Walsh et al. does not teach all the claim limitations in Applicant's claims 1-12 and 17-22. Thus, the *prima facie* obviousness of the invention of claims 1-12 and 17-22 has not been established. Applicant respectfully requests that the present rejection of claims 1-12 and 17-22 be withdrawn.


Conclusion

The foregoing is submitted as a full and complete response to the Official Action. Applicant submits that the pending claims are in condition for allowance. Reconsideration is requested, and allowance of the pending claims is earnestly solicited.

Should it be determined that an additional fee is due under 37 CFR §§1.16 or 1.17, or any excess fee has been received, please charge that fee or credit the amount of overcharge to deposit account #02-2666. If the Examiner believes that there are any informalities which can be corrected by an Examiner's amendment, a telephone call to the undersigned at (503)439-8778 is respectfully solicited.

Respectfully submitted,

Date: August 23, 2006


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